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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,847	02/25/2005	Mitsuo Tsukamoto	Q85912	2196
23373	7590	04/06/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			WU, IVES J	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/525,847	TSUKAMOTO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ives Wu	1713	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

(1). Applicant's Remarks and Amendments filed on January 13, 2006 has been received and acknowledged.

Claims 4, 7, 8 and 12 are amended. Claims 13 – 19 are newly added.

The original rejections of claims 1 - 12 in the prior Office Action dated October 18, 2005 and rejections of claims 13 - 19 are presented together as following.

#### *Claim Rejections - 35 USC § 102/103*

(2). The text of those Sections Title 35 U. S. Code not included in this Office Action can be found in the prior Office Action dated October 18, 2005.

(3). **Claims 1, 4 – 11 and 18** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stallings (US003780007) for the same rationale recited in the prior Office Action dated October 18, 2005.

The rejections of **claims 1, 4-11** for the same rationale can be seen in the prior Office Action dated October 18, 2005.

As to the limitation of **dependent claim 18**, Stallings discloses the process to be easily adapted to the continuous production of polyvinylidene fluoride (Col. 1, line 25-27). Although Stallings does not disclose the examples of continuous production, it would have been obvious that once the process of Stallings is adapted to the continuous mode, the continuous supply as well as continuous discharge would be inherited features to keep the production continuously, successfully.

(4). **Claims 2, 3, 13 - 17 and 19** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over DeSimone et al (US005824726A) for the same rationale recited in the prior Office Action dated October 18, 2005.

The rejections of claims 2, 3 for the same rationale can be seen in the prior Office Action dated October 18, 2005.

As to the continuous polymerization in **independent claim 2**, DeSimone et al disclose the polymerization can be carried out batchwise or continuously with thorough mixing of the

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reactants in any appropriately designed high pressure reaction vessel, or tubular reaction vessel (Col. 6, line 45-48).

As to the chain transfer agent in **dependent claim 13**, DeSimone et al disclose, for example, one skilled in the art will appreciate that a chain transfer agent to be employed to regulate the molecular weight of the resulting polymer (Col. 6, line 12-14).

As to the radical polymerization initiator to be an organic peroxide comprising peroxydicarbonatea fluorine-based diacyl peroxide and/or a fluorine-free diacyl peroxide in **dependent claims 15 - 17**, DeSimone et al disclose examples of hydrocarbon free radical initiators include but not limited to di-2-ethylhexyl peroxydicarbonate (Col. 5, line 16-20).

As to the reaction vessel amount to at least 8 g/liter capacity in steady state in **dependent claim 14**, in absence of showing the criticality of the records, the optimization capacity of the reaction vessel to be 8 g/liter in a known process renders *prima facie obviousness* within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the limitation of **dependent claim 19**, DeSimone et al disclose the polymerization to be carried out batchwise or continuously with thorough mixing of the reactants in any appropriately designed high pressure reaction vessel, or tubular reaction vessel (Col. 6, line 45-48). Although DeSimone do not disclose the examples of continuous production, it would have been obvious that the polymerization process of DeSimone et al once is carried out in the continuous mode, the continuous supply as well as continuous discharge would be inherited features to keep the production continuously, successfully.

#### ***Claim Rejections - 35 USC § 103***

(5). The text of those Sections Title 35 U. S. Code not included in this Office Action can be found in the prior Office Action dated October 18, 2005.

(6). **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Stallings (US003780007) in view of Saito et al (US006716942B1) for the same rationale recited in prior Office Action dated October 18, 2005.

#### ***Response to Arguments***

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Applicant's arguments filed on January 13, 2006 have been fully considered but they are not persuasive.

Applicants argue that the disclosure of prior art reference - Stallings (US003780007) does not have continuous mode operation, and DeSimone et al (US005824726A) only show the batch operations in examples, however, both Stallings et al (US003780007) and DeSimone et al (US005824726A) indicate that their process can be continuous recited in the hereinabove paragraphs. Therefore, the continuous polymerization under supercritical condition is anticipated to one ordinary skill in the art.

Lastly, applicants argue the issue of Mw/Mn of prior art references – Stallings, DeSimone et al, in view of substantially identical polymerization conditions disclosed by prior art references, the product of prior art references would inherently possess dispersity of between 1 ~3 if continuous process is applied.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu

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Date: April 3, 2006

  
DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700